

Capital Needs & Sources for Cattle Feeding in Arizona

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The United States cattle feeding industry has undergone dramatic adjustments in recent years. These adjustments have been characterized by an increase in fat cattle marketing and consolidation of feeding into fewer, but larger feedlots. Economic forces encouraging these developments have been especially acute in Arizona.

Marketings from Arizona feedlots increased from 568,000 head in 1962 to 899,000 in 1972. The number of feedlots declined from 189 in 1962 to 53 in 1972 with nearly 80 percent of the cattle fed out in 18 lots of over 16,000-head capacity. This contraction in lot numbers and expansion in size has required heavy injections of new capital on both the individual feedlot and industry levels. Investors outside the industry have played a large role in providing the additional capital needed to support increased fat cattle production.

Recently completed research provides some insight regarding the magnitude of capital investments in Arizona feedlot fixed facilities and operating outlays.¹ On a book value basis, study results indicate that the average investment in fixed facilities was \$58 per head of capacity in 1971. With an estimated statewide feeding capacity of 609,000 head, the investment in facilities alone was approximately \$35,090,000. Firms with 20,000 head capacity had about \$1,160,000 and those with 50,000 head required about \$2,900,000.

Estimated new facility costs in 1972 were \$65-\$75 per head of capacity depending on the size of lot and type of facilities. Assuming a cost of \$70 per head, a new plant with a capacity of 50,000 head would require \$3,500,000. Assuming a nine percent interest rate,

the annual interest cost on this size of investment would be \$315,000 or \$6.30 per head of capacity.

Capital for the plant, while relatively large, is small in relation to investment in animals and operating costs. Assuming calves were placed on feed at a weight of 500 pounds in 1973, at a cost per hundredweight of \$55, the total cost per animal would be \$275. The cost of feeding the animal to 1,000 pounds would be about \$225. The total cumulative capital required to purchase and feed each animal would be around \$500.

A continuous operation would require \$387 average capital investment in animals and feeding costs, per unit of plant capacity employed. (Based on \$275 investment in the feeder plus one-half the cost of feeding, i.e., \$112.50.) This figure would of course, vary depending on individual circumstances.

A feedlot with 20,000-head capacity, operating at peak levels, would have up to \$7.7 million in cattle plus over \$1 million in plant. A 50,000-head unit would require over \$19 million for cattle and operations, plus nearly \$3 million in plant.

The industry had an average of

556,000 head on feed in 1972. The average capital investment, based on the above estimates, would be \$215 million for animals and operating costs. Thus for plant, animals and operations approximately \$250 million were required.

Given the size of individual feedlots, capital requirements generally exceed the firm's available sources of internal funds and debt capital. In an attempt to alleviate capital constraints and to reduce risk, feedlot firms have become largely service organizations doing custom feeding for clients. The client supplies the capital either directly or indirectly and/or through credit arrangements with lending agencies and the feedlot owner provides management and feeding services in exchange for a fixed fee. The feedlot owner generally buys the feeders for the client, feeds and cares for the animals and arranges for them to be marketed. The client may never see the animals or the feedlot.

Cattle feeding investors come from varied backgrounds. Many are urban businessmen without knowledge of the industry and interested only in profitable investment. Some invest directly and some through cattle management companies, or cattle feeding funds. Feedlot owners and their personnel also feed for their own accounts as do some livestock packing firms. In early 1973, it was estimated that over 50 percent of the cattle on feed in Arizona were owned by cattle management companies, funds or other investment groups.

Commercial banks are heavily involved in providing the capital needed by cattle feeders of all types. Gener-

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¹ Menzie, Elmer L., William J. Hanekamp & George W. Phillips, *The Economics of Cattle Feeding Industry in Arizona*, Technical Bulletin 207, The University of Arizona, Agricultural Experiment Station, October, 1973, p. 6.

² *Ibid*, p. 43.

³ Scofield, W. H., *Nonfarm Equity Capital in Agriculture*, *Agricultural Finance Review*, Volume 33, July, 1972, p. 37.

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supply of water to have the last cut filled for stock water from moisture that percolates through the mined material. The mining operation has been designed so that the final cut is on the down slope side of the impermeable layer underlying the coal bed. The rate of water movement through the mined soil is being synthesized on the computer and validated with the moisture measurements to predict if and when the final cut can be supplied from percolating water.

Preliminary Results

The installations were completed in September, but because of the dry fall conditions results are still tentative. They indicate that chemically and physically the soil material of the mine area is similar to that of the natural area. Texture of both soils are loam however, the mine soil has a greater range of water availability for plant growth than the natural area. Total nitrogen, total phosphorus and total potassium are all higher on the mined than on the natural watershed. The pH of the mined watershed soil is a neutral 6.9. There is enough natural lime on the area to neutralize about 50 tons of sulphuric acid per acre. Sodium is higher on the mine site but far below levels that would lead to a sodic condition. Total salts primarily bicarbonates, sulphates and chlorides of calcium and magnesium are higher for the mined soils, but are four to five times lower than an amount that would be detrimental to grass species suitable to the climates.

The mine soil, of course, has developed no structure. It therefore tends to puddle and form crusts on the surface. This condition should be of little consequence once a vegetative cover has been established, and may be alleviated in the interim by the addition of small amounts of organic matter. When the condition is overcome, the mine soil should, because of its great depth, have a high hydrologic potential and an adequate nutrient level for the production of good range forage.

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ally banks in this area have required clients to put up a 30 percent margin. The remaining 70 percent is provided as needed in the feeding operation by the lending institution.

Commercial banks are, of course, not the only source of funds. Production Credit Associations have been providing increasing amounts of funds. Institutional investments from trust funds, pension funds and other capital pools are becoming common in cattle feeding.² Individuals with private sources of funds, as well as some large corporate firms, have been attracted to the cattle feeding industry.

Some financing has been carried out through the sale of limited partnership interests. These partnership programs typically include a parent corporation, a general partner and one or several limited partnership series (i.e., cattle feeding funds). Purchase of a limited partnership by an outside investor generally requires a minimum investment of \$10,000 for periods of three to six years. Penalties may be assessed for premature withdrawals. The general partner provides all of the management service for which he charges a fee and often shares in any profits realized by the limited partner. Limited partnerships

in cattle feeding initially became popular during 1970-71.³ They still do not provide a significant source of capital for Arizona feeders.

Outside sources of capital have made it possible to finance modern feedlot operations at sizes considered economic. However, they do make the industry more vulnerable when market conditions and profit margins are unfavorable. During the last quarter of 1973 the stability of these capital sources has been severely tested. High feeder prices and feed costs have resulted in heavy losses being sustained by investors as the fat cattle market declined following decontrol of prices in September. If conditions do not soon become more favorable, considerable amounts of capital can be expected to be withdrawn. This situation would put many feedlot owners in jeopardy as costs per unit rise with reduced use of capacity.

Expectations are that feeder calf prices will continue to decline and feed costs should move downward in 1974. Placements have been down for some time, and fat cattle prices are expected to strengthen in the coming months. These events should improve the investment climate but the industry will continue to face considerable uncertainty and instability in the near future.

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